

BEGONIA OF VENEZUELA

Lyman B. Smith
Smithsonian Institution
Washington, D. C., U.S.A.

This revision is preliminary to a more extensive one in the "Flora de Venezuela." Doubtless it will attract more material and add to the species in the final publication.

The old division into sections has been discarded because of the breakdown of the distinction of placental form. Only the more important synonymy is given.

1. Plants scapose, tuberous or rhizomatous with very short internodes covered by the stipules; leaves and scapes fasciculate.
2. Petioles tomentose; inflorescences few-flowered, irregularly branched; staminate tepals 4 (-6), the pistillate 5; styles more than 2-branched, irregular..... 1. B. rosacea
2. Petioles covered with scales; inflorescence few-many-flowered, subregularly cymose; both staminate and pistillate tepals 2; styles 2-branched, regular....2. B. stigmosa
1. Plants with long leafy stems and distinct internodes at least in part (B. glandulifera).
3. Ovary and capsule turbinate, not winged but with 3 equal horns.
4. Leaves peltate; styles 2-branched, regular.
3. B. trujillensis
4. Leaves basifixed; styles more than 2-branched, irregular (unknown in B. brevipetala).
5. Leaves straight or nearly so.
6. Staminate tepals ca. 50 mm long..... 4. B. formosissima
6. Staminate tepals 8-30 mm long.
7. Leaves acuminate, few-lobed and coarsely crenate-serrate; capsule-column 3-4 mm long..... 5. B. vareschii
7. Leaves acute or obtuse, serrate but not lobate; capsule-column to 18 mm long.
8. Stem wholly decumbent; staminate tepals 6-20 mm long; pistillate tepals 8-20 mm long..... 6. B. montana
8. Stem decumbent at base; staminate tepals 3-8 mm long; pistillate tepals 3-5 mm long..... 7. B. urticae
5. Leaves oblique or transverse to the petiole.
9. Capsule-horns horizontally complanate, obtuse; column very short.
10. Leaves 10-11 cm long, 5-6.5 cm wide; anther-connective very little produced; capsule-horns 10-12 mm long.
8. B. trispathulata
10. Leaves to 6 cm long, 2.5 cm wide; anther-connective much produced; capsule-horns short..... 9. B. trapa
9. Capsule-horns not horizontally complanate, acute; column well developed.

11. Capsule-horns deflexed; stipules green, firm; leaves ferruginous-pubescent beneath..... 10. B. ferruginea
11. Capsule-horns spreading or ascending.
12. Stem wholly decumbent; outer tepals 15-27 mm long. 11. B. mariae
12. Stem erect; outer tepals smaller.
13. Column of the ovary or capsule long and slender.
14. Inflorescence rather many-flowered. 12. B. brevipetala
14. Inflorescence few-flowered (staminate) or 1-flowered (pistillate)..... 13. B. toledana
13. Column of the ovary or capsule short and stout; inflorescence multiflorous or submultiflorous.
15. Stipules and bracts fleshy; inflorescence branching 4 times..... 14. B. lipolepis
15. Stipules and bracts thin, pale; inflorescence branching twice..... 15. B. gehrigeri
3. Ovary and capsule ovoid, ellipsoid or globose, its wings generally unequal.
16. Plants annual or of less duration; bases fine, fibrous.
17. Capsule-wings subequal, narrowly crescentiform. 16. B. semiovata
17. Capsule-wings distinctly unequal with the largest ovate.
18. Leaves and the largest capsule-wing twice as long as wide..... 17. B. filipes
18. Leaves and the largest capsule-wing much wider.
19. Pistillate bracteoles about equaling the ovary and accrescent with fruit.
20. Filaments free or nearly so; pistillate tepals free. 18. B. priurei
20. Filaments connate in a slender column; pistillate tepals connate at base..... 19. B. steyermarkii
19. Pistillate bracteoles much shorter than the ovary, not accrescent in fruit.
21. Stem villous with multicellular hairs; pedicels villous..... 20. B. hirtella
21. Stem glabrous; petioles glabrous except near the apex..... 21. B. humilis
16. Plants perennial with firm bases.
22. Leaves peltate..... 22. B. boucheana
22. Leaves basifixed.
23. Leaves straight or nearly so, continuing the direction of the petiole.
24. Leaves palmnerved, with truncate base and rounded apex..... 23. B. cucullata
24. Leaves penninerved.
25. Inflorescence racemose or paniculate with a long central axis..... 24. B. buddleifolia
25. Inflorescence cymose or few-flowered.
26. Staminate and pistillate tepals both 2; leaves asymmetric, elliptic-obovate, 4-8 cm wide. 25. B. alnifolia

26. Staminate tepals 4, pistillate 5.
27. Leaves nearly symmetrical, broadly ovate; stem scandent, rooting at the nodes..... 26. B. glabra
27. Leaves distinctly asymmetric at least at base (dimidiate); stem usually not scandent.
28. Leaves to 47 mm long and 17 mm wide in the Venezuelan taxa; branches short and numerous; inflorescences few-flowered in the Venezuelan taxa.
29. Branches smooth..... 27. B. foliosa
29. Branches densely papillose..... 28. B. microphylla
28. Leaves larger.
30. Leaves hirsute on both sides, thin. 29. B. ulmifolia
30. Leaves ciliate but otherwise glabrous.
31. Styles more than 2-parted; leaves membranaceous. 30. B. guaduensis
31. Styles bifid; leaves fleshy..... 31. B. meridensis
23. Leaves oblique or transverse to the petiole.
32. Inflorescence racemose or paniculate with a long central axis.
33. Inflorescence densely glandular; stem internodes short..... 32. B. glandulifera
33. Inflorescence glabrous; stem internodes long. 33. B. nubicola
32. Inflorescence cymose or few-flowered.
34. Inflorescence few-flowered.
35. Stipules persistent, broadly ovate; bracts deciduous, entire..... 34. B. pastoensis
35. Stipules deciduous, ovate-oblong; bracts persistent, fimbriate..... 35. B. patula
34. Inflorescence many-flowered.
36. Leaves narrow, more than twice as long as wide, 3.5-4.5 (-6.5) cm wide, subentire, glabrous; staminate tepals 2.
37. Pistillate bracteoles about equaling the ovary, serrate; pistillate tepals subequal.... 36. B. laxa
37. Pistillate bracteoles minute; the 2 outer pistillate tepals much shorter than the others. 37. B. fagopyroides
36. Leaves ample, much less than twice as long as wide, distinctly serrate, pubescent beneath at least at base; staminate tepals 4; the 2 outer pistillate tepals much shorter than the others.
38. Plant with leaves and flowers verruculose. 38. B. verruculosa
38. Plant not verruculose anywhere.
39. Ovary or capsule with 2 large wings; petiole with an apical ring of hairs. 39. B. otophylla
39. Ovary or capsule with only one large wing.
40. Inflorescences bisexual; leaves broadly ovate,

shallowly cordate; petioles and young axes
pilose..... 40. B. scabrida

40. Inflorescences unisexual; leaves mostly broadly
elliptic and strongly cordate... 41. B. dichotoma

1. B. ROSACEA Putz, Fl. Serres II. 2: 25, pl. 1194. 1857.
B. macra A. DC. Ann. Sci. Nat. IV. 11: 121. 1859. B. inanis
Irmischer, Bot. Jahrb. 74: 616. 1949.

Type: Between the Río Meta and the Río Guaviare, Meta or
Vichada, Colombia. Described and illustrated from cultivated
material. No herbarium specimen known.

Venezuela: Aragua, Lara, Mérida, Trujillo. Colombia.

2. B. STIGMOSA Lindl. Bot. Reg. 31, Misc.: 32. 1845. B. vil-
lipetiola C. DC. Smithsonian Misc. Coll. 69, 12: 5. 1919.
B. santae-martae Irmischer, Bot. Jahrb. 74: 618. 1949.

B. hepatica-maculata Ziesenhenné ex Barkley, Buxtonian 1, suppl.
5: 43. 1972, nomen.

Type: Loddiges. Described from cultivation without note of
origin.

Venezuela: Lara, Mérida, Zulia. Southern Mexico to
Venezuela.

3. B. TRUJILLENSIS L. B. Smith, Phytologia 25: 418, pl. 1973.

Type: By a watercourse in cloud forest, 32 km from Trujillo
by the old road to Boconó between Urbina and San Rafael,
Trujillo, Venezuela, 2300-2500 m, 28 August 1941, J. A. Steyer-
mark & M. Rabe 97227 (VEN, holotype; US, isotype).

4. B. FORMOSISSIMA Sandwith, Kew Bull. 1941: 223. 1942,
emend. L. B. Smith. Bracteolis femineis bracteeas simulantibus,
ovarium superando; tepalis femineis 6, anguste ellipticis, 3 cm
longis; stylis multo ramosis cum segmentis erectis linearibus
omnino stigmatiferis; placentis bifidis. Capsula late turbi-
nata; columna cornua acuta patentia subaequantia. Fl. I.

Type: Dense moist forest below open paramo, Paramo de las
Lajas, Mucutuy, Mérida, Venezuela, 2550 m, 25 October 1938,
J. Hanbury-Tracy 142 (K).

Emend. type: Moist slopes by running water, dwarf cloud
forest, below Paramo de La Negra on the road to Pregonero,
Táchira, Venezuela, 2700-2900 m, 29-30 August 1966, J. A.
Steyermark & M. Rabe 69220 (VEN).

Venezuela: Mérida, Táchira.

5. B. VARESCHII Irmischer, Bot. Jahrb. 78: 185. 1959.

Type: On rock with Selaginella rhipidopteris in ravine, by
road between Mucubagji and Barinas, Barinas State, Venezuela.
Venezuela: Barinas.

6. B. MONTANA (A. DC.) Warb. in Engler & Prantl, Pflanzenfam.
3, Abt. 6a: 146. 1894. Casparya montana A. DC. Ann. Sci. Nat.
IV. 11: 118. 1859.

Type: Sierra Nevada, Mérida, Venezuela, 2700 m, August
1842, Funck & Schlim 420 (G, holotype, F photo 7316).

Venezuela: Mérida, Táchira.

7. B. URTICAE L. f. Suppl. 420. 1781. B. columnaris Benth.
Pl. Hartweg. 131. 1844. Sassea glabra Kl. Monatsber. Berlin

Akad. 128. 1854. Casparya columnaris beta glabra (Kl.) A. DC. in DC. Prodr. 15, pt. 1: 274. 1864. Begonia monticola C. DC. Bull. Herb. Boiss. II. 8: 325. 1908. B. torresii Standl. Journ. Washington Acad. Sci. 17: 313. 1927. B. chiriquensis Standl. in Woodson & Schery, Ann. Missouri Bot. Gard. 27: 321. 1940. B. columnaris Benth. var. glabra (Kl.) L. B. Smith & Schubert in Macbride, Fl. Peru in Field Mus. Pub. Bot. 13, pt. 4: 187. 1941.

Type: "Habitat in America. Mutis." (Colombia).

Venezuela: Táchira. Venezuela and Costa Rica to Peru.

8. B. TRISPATULATA (A. DC.) Warb. in Engler & Prantl, Pflanzenfam. 3, Abt. 6a: 146. 1894. Casparya trispathulata A. DC. Ann. Sci. Nat. IV. 11: 117. 1859; in DC. Prodr. 15, pt. 1: 271. 1864.

Type: "Nova Granata" (Colombia, but probably from Venezuela like all subsequent material), without any locality, J. J. Linden 1459 (K, holotype, photo US).

Venezuela: Aragua, Lara, Trujillo.

9. B. TRAPA L. B. Smith & Schubert, Contr. Gray Herb. 154: 26, pl. 1. 1945.

Type: By water or hanging from shady rather humid slopes, Quebrada del Pueblo, Mucuruba, Mérida, Venezuela, 2600 m, 1 July 1930, W. Gehrig 274 (F, holotype; MO, NY, isotypes). Venezuela: Mérida.

10. B. FERRUGINEA L. f. Suppl. 419. 1781; J. E. Smith, Fl. Icon. Ined. 2: pl. 44. 1790.

Type: "in Nova Granada," Mutis (LINN, photo AA 1125.1).

Venezuela: Táchira. Colombia.

11. B. MARIAE L. B. Smith, sp. nov. B. brevipetalae (A. DC.) Warb. affinis sed caule repente, tepalis magnis differt.

Glabrous herb; stems repent, straight, slender, sulcate. Leaves transversely ovate, acuminate, subcordate at base with the larger side decurrent on the petiole, 5-10 cm long, 3-5 cm wide, doubly serrate with setose-tipped teeth, green above, pale beneath; petioles 1-3 cm long; stipules deciduous, membranaceous, hyaline, elliptic-oblong, obtuse, 25 mm long, entire. Peduncles axillary, to 10 cm long. Inflorescences of a few staminate flowers or a single pistillate. Bracts deciduous, hyaline, elliptic, to 13 mm long. Pedicels 15 mm long (staminate) or very short (pistillate). Staminate tepals 4, rose, the 2 outer orbicular, 15 mm wide, the inner obovate, 8 mm long. Stamens many, free or nearly so; filaments short; anthers oblong, the connective produced, obtuse. Pistillate bracteoles like the bracts but rose. Pistillate tepals 6, subequal, broadly elliptic, 15-27 mm long. Styles irregularly branched; placentae bilamellate, ovuliferous throughout. Capsule broadly turbinate with 3 slightly ascending horns, attenuate, the column subcylindric, 6-10 mm long. Seeds ellipsoid, broadly rounded at apex, reticulate. Pl. II.

VENEZUELA: MÉRIDA: creeping in watercourse, Teleférico trail between La Aguada and La Montaña, 2600 m, 21 November 1972, John J. & Marie L. Wurdack & S. S. Tillett 2782 (US,

holotype; VEN, isotype).

12. *B. BREVIPETALA* (A. DC.) Warb. in Engler & Prantl, Pflanzfam. 3: Abt. 6a: 146. 1894. *Casparya brevipetala* A. DC. Ann. Sci. Nat. IV. 11: 118. 1859.

Type: Mérida, Venezuela, 1800 m, Funck & Schlim 941 (G, holotype, F photo 24179).

Venezuela: Mérida.

13. *B. TOLEDANA* L. B. Smith & Schubert, *Caldasia* 4: 26, pl. 5. 1946.

Type: Woods along stream, Loso and vicinity (north of Toledo), alt. 2200-2400 m, Mar. 6-7, 1927, Killip & A. C. Smith 20359 (GH, holotype; NY, US, isotypes).

Venezuela: Mérida, Táchira. Colombia.

14. *BEGONIA LIPOLEPIS* L. B. Smith, sp. nov. *B. cornutae* L. B. Smith & Schubert (sect. *Casparya*) affinis sed tepalis femineis ovatis subacutis minoribus, capsulae cornubus brevibus robustis mox truncatis differt.

Much branched shrub or suffrutex; branches flexuous, slightly swollen at the nodes, glabrous. Leaves strongly oblique or transverse, narrowly ovate, acuminate, more or less cordate at base, to 8 cm long and 38 mm wide, subcoriaceous, ciliate-serrate, nearly glabrous above, densely appressed-setose on the nerves beneath; petioles 2 cm long; stipules fleshy, elliptic, 1 cm long, entire. Peduncle becoming axillary, 25 mm long. Inflorescence cymose, 4 times branched, many-flowered, over 15 cm wide, the axes glabrous. Bracts deciduous, unknown. Staminate pedicels 15 mm long. Staminate tepals 4, white, the outer suborbicular, 12 mm long, the inner narrowly elliptic, 8 mm long. Stamens free; anthers oblong, longer than the filaments, the connective produced. Pistillate pedicels 3 mm long. Pistillate bracteoles apparently lacking. Pistillate tepals 5, ovate, subacute, subequal, to 9 mm long, entire, white or roseate, laxly white-pubescent. Styles irregularly branched. Capsule turbinate, white-pubescent at apex, the 3 horns equal, short, soon truncate by the loss of the deciduous apices, the column short but distinct; placentae bilamellate. Fl. III.

VENEZUELA: TÁCHIRA: dwarf cloud forest, 3-8 km from Zumbador toward Queniquea, 2650-2700 m, 3 March 1971, J. A. Steyermark 105078 (US, holotype; VEN, isotype).

15. *B. GEHRIGERI* L. B. Smith, sp. nov. *B. cornutae* L. B. Smith & Schubert (sect. *Casparya*) affinis sed inflorescentia paulo ramosa, antherarum connectivo acuto, capsulae cornubus mox truncatis differt.

Suffrutex; branches slightly flexuous, slightly swollen at the nodes, glabrous. Leaves strongly oblique or transverse, narrowly ovate, acuminate, cordate at base, to 5 cm long and 23 mm wide, thin, doubly serrate, ciliate, sparsely pilose above and on the nerves beneath; petioles 15 mm long; stipules thin, hyaline, lanceolate, acuminate, 7 mm long, entire. Peduncles becoming axillary, 2-4 cm long. Inflorescences unisexual, cymose, 2 times branched with the flowers fascicled on the branch ends, the axes glabrous. Bracts deciduous, hyaline,

linear, 3 mm long. Pedicels 6-15 mm long. Staminate tepals 4, white when dry, the outer ovate, obtuse, 9 mm long, the inner broadly obovate, 5 mm long. Stamens free; anthers oblong, much longer than the filaments, the connective produced, acute. Pistillate bracteoles and tepals unknown. Styles irregularly branched. Capsule turbinate, sparsely pilose, the 3 horns equal, short, soon truncate, the column short but distinct; placentae bilamellate. Pl. IV.

VENEZUELA: MÉRIDA: rather humid slopes, Quebrada del Pueblo, Mucurubá, 2600 m, 1 July 1930, W. Gehriger 274 (VEN, holotype).

16. B. SEMIOVATA Liebm. Kjoeb. Vidensk. Meddell. 1852. 22. 1853. B. spruceana A. DC. Ann. Sci. Nat. IV. 11: 142. 1859. B. flexuosa A. DC. l. c. B. guyanensis A. DC. l. c. B. humilis Dryand. in Ait. var. glabrata Seemann ex A. DC. l. c. B. rosea A. DC. in DC. Prodr. 15, pt. 1: 299. 1864. B. guyanensis A. DC. var. glaberrima C. DC. Bot. Gaz. 20: 540. 1895.

Type: Mount Mombacho, Nicaragua, Oersted 209 (C, holotype; F photo 21708).

Venezuela: Bolívar, Amacuro Territory. Mexico to Guiana and Peru.

17. B. FILIPES Benth. Bot. Voy. Sulph. 101. 1844. B. hygrophila C. DC. ex Th. Dur. & Pittier, Bull. Soc. Bot. Belg. 35, pt. 1: 265. 1896. B. hygrophila var. puberula C. DC. ex Th. Dur. & Pittier, l. c. B. mameiana C. DC. Smithsonian Misc. Coll. 69, 12: 4. 1919. B. leptopoda C. DC. op. c. 6. B. chepoënsis C. DC. op. c. 8. B. heterodonta Rusby, Descr. New Spec. So. Am. Pl. 66. 1926.

Type: Isle of Taboga, Bay of Panama, Panama, Sinclair (K, holotype).

Venezuela: Zulia. Costa Rica, Panama, Colombia.

18. B. PRIEUREI A. DC. Ann. Sci. Nat. IV. 11: 142. 1859.

Type: French Guiana, 1833, Leprieur (holotype G, F photo 24203).

Venezuela: Bolívar. French Guiana to Venezuela.

19. B. STEYERMARKII L. B. Smith & Schubert, Journ. Washington Acad. Sci. 45: 110, fig. 1 a-h. 1955.

Type: Plants cultivated in the U. S. Plant Introduction Garden (PI 211848) from seeds from Chimanta-tepui, Bolívar, Venezuela, 1700 m, J. A. Steyermark 75502 (holotype US).

Venezuela: Bolívar.

20. B. HIRTELLA Link. Enum. Hort. Berol. 2: 396. 1822.

Type: Cultivated in Berlin Hortus, origin unknown (B, holotype, not seen).

Venezuela: Carabobo. West Indies to Peru and Brazil.

21. B. HUMILLIS Ait. Hort. Kew. ed. 1. 3: 353. 1789.

Type: "Nat. of the West Indies. Introd. 1788, by Messrs. Lee and Kennedy." (BM ? not seen).

Venezuela: Federal District, Anzoátegui, Aragua, Bolívar, Carabobo, Falcón, Lara, Mérida, Miranda, Monagas, Sucre. West Indies to Peru and Brazil.

22. B. BOUCHEANA (Kl.) A. DC. Gurlltia boucheana Kl. Ann. Sci.

Nat. IV. 6: 351. 1856.

Type: Caracas, Federal District, Venezuela, Wagner in Berlin Hortus (B, holotype, F photo 20818).

Known only from the type.

23. *B. CUCULLATA* Willd. Sp. Pl. 4: 414. 1805. *B. spatulata* Lodd. Bot. Cab. 2: pl. 107. 1817. *B. semperflorens* Link & Otto, Ic. Pl. Rar. 9, pl. 5. 1828. *B. semperflorens* var. *hookeri* A. DC. in Mart. Fl. Bras. 4, pt. 1: 342. 1861. *B. cucullata* var. *hookeri* (A. DC.) L. B. Smith & Schubert, Darwiniana 5: 104, fig. 12. 1941.

Type: "Habitat in Brasilia." (B, holotype, microfiche 17567).

Venezuela: Federal District, in cultivation.

Native in southern Brazil, Paraguay, Uruguay and the north-east of Argentina, and naturalized in tropical and subtropical regions around the world.

24. *B. BUDDLEIIFOLIA* A. DC. Ann. Sci. Nat. IV. 11: 141. 1859; in DC. Prodr. 15, pt. 1: 380. 1864. *Pilderia urticifolia* Kl. Monatsb. Berlin Akad. 127. 1854, non *Begonia urticifolia* J. E. Smith, 1790. *B. lantaniifolia* A. DC. Ann. Sci. Nat. IV. 11: 141. 1859. *B. pilderia* A. DC. in DC. Prodr. 15, pt. 1: 380. 1864. *B. urticifolia* (Kl.) Warb. in Engler & Prantl, Pflanzenfam. 3, Abt. 6a: 144. 1894. Pl. V.

Type: Tarapoto, Peru, Spruce 3998 (G, holotype).

Venezuela: Federal District, Aragua, Carabobo, Mérida, Táchira. Colombia, Ecuador, Peru.

25. *B. ALNIFOLIA* A. DC. Ann. Sci. Nat. IV. 11: 133. 1859; in DC. Prodr. 15, pt. 1: 331. 1864.

Type: Ocaña, Norte de Santander, Colombia, Schlim 561 (G, holotype, F photo 24177; K, isotype).

Venezuela: Mérida. Colombia.

26. *B. GLABRA* Aubl. Pl. Guian. 2: 916, pl. 349. 1775. *B. scandens* Sw. Prodr. 88. 1788. *B. moritziana* Kunth & Bouché, Ind. Sem. Hort. Berol. 16. 1848.

Type: French Guiana. Aublet (BM probably, not seen).

Venezuela: Federal District, Anzoátegui, Aragua, Carabobo, Falcón, Sucre, Trujillo, Zulia, Amazonas Territory. Mexico and the Antilles to Bolivia, Peru, and Brazil.

27. *B. FOLIOSA* H. B. K. Nov. Gen. & Sp. Pl. 7: 183, pl. 64. 1825.

27a. var. *FOLIOSA*. Pistillate bracteoles at the base of the ovary; all the capsule-wings acute.

Type: Colombia, Humboldt & Bonpland (P, holotype).

Endemic to Colombia.

27b. var. *PUTZEYSIANA* (A. DC.) L. B. Smith & Schubert, Caldasia 4, no. 18: 192, pl. 17. 1946. *B. putzeynsiana* A. DC. in Ann. Sci. Nat. IV. 11: 139. 1859; in DC. Prodr. 15, pt. 1: 375. 1864.

Type: Trujillo, Funck & Schlim 821 (K, holotype).

Venezuela: Lara, Mérida, Táchira, Trujillo. Colombia.

28. *B. MICROPHYLLA* A. DC. in DC. Prodr. 15, pt. 1: 375. 1864, non Willd. ex Kl. 1854, nomen in synonym.

Type: Moist woods, Mérida, Venezuela, Moritz 1263 (B, holotype).

Venezuela: Mérida, Táchira, Colombia.

29. B. ULMIFOLIA Willd. Sp. Pl. 4: 418. 1805. Pl. VI.

Type: Caracas, Federal District, Humboldt & Bonpland (B, holotype).

Venezuela: Federal District, Anzoátegui, Bolívar, Falcón, Monagas, Sucre. Trinidad, Guayana.

30. B. GUADUENSIS H. B. K. Gen. & Sp. 7: 178. 1825. B.

ottonis Walpers, Repert. Bot. Syst. 2: 212. 1843. B. serratifolia C. DC. Smithsonian Misc. Coll. 69, no. 12: 7. 1919.

Type: Near Guadua, between Honda and Bogotá, Cundinamarca, Colombia, Humboldt & Bonpland (P, holotype).

Venezuela: Federal District, Apure, Aragua, Bolívar, Miranda, Amazonas Territory.

31. B. MERIDENSIS A. DC. Ann. Sci. Nat. IV. 11: 123. 1859; in DC. Prodr. 15, pt. 1: 292. 1864.

Type: Mérida, Moritz 1261 (B, holotype).

Venezuela: Merida, Sucre, Amazonas Territory.

32. B. GLANDULIFERA Griseb. Fl. British West Indies. 304. 1860. Pl. VII.

Type: Maravel, Trinidad, Lockhart (TRIN, holotype).

Venezuela: Sucre. Trinidad.

33. B. NUBICOLA L. B. Smith & Schubert, Mem. New York Bot. Gard. 9: 354. 1957.

Type: Occasional in high mountain forest, 2-8 km from Camp no. 3, Cerro de la Neblina, Río Yatua, Amazonas Territory, Venezuela, 800 m, 24 December 1953, Maguire, Wurdack & Bunting 36859 (NY, holotype; US, isotype).

Venezuela: Amazonas Territory.

34. B. PASTOENSIS A. DC. Ann. Sci. Nat. IV. 11: 121. 1859; in DC. Prodr. 15, pt. 1: 284. 1864.

34a. var. PASTOENSIS. Stipules and inflorescence glabrous.

Type: Pasto, Colombia, Triana 3031 (G, holotype).

Colombia and Ecuador.

34b. var. HIRSUTIOR L. B. Smith & Schubert, Fieldiana Bot. 28: 418. 1952. Stipules pubescent outside, ciliate. Inflorescence stipitate-glandular.

Type: Between Los Corales and Las Cuadras, Mérida, Venezuela, 1490-3210 m, 25 March 1944, Steyermark 55753 (F, holotype).

Venezuela: Mérida, Trujillo.

35. B. PATULA Haworth, Pl. Succ. Suppl. 100. 1819. B.

fischeri Schrank, Pl. Rar. Hort. Acad. Monac. 1: pl. 59. 1819. B. pauciflora Lindl. Bot. Reg. 6: pl. 471. 1820.

Type: Description. No specimen known.

Venezuela: Apure, Aragua, Barinas, Bolívar, Carabobo, Mérida, Trujillo, Yaracuy. Mexico and the West Indies to Bolivia and southern Brazil.

36. B. LAXA L. B. Smith & Schubert, Fieldiana Bot. 28: 416, fig. 88. 1952.

Type: Peak in Cerro Turumuquire, Sucre, Venezuela, alt. 2300-

2500 m, 8 May 1945, J. A. Steyermark 62677 (F, holotype).

Known only from the type collection.

37. *B. FAGOPYROIDES* Kunth & Bouché, Ind. Pl. Hort. Berol. 16. 1848. *B. fagopyroides* beta *fendleriana* A. DC. in DC. Prodr. 15, pt. 1: 289. 1864.

Type: Near Colonia Tovar, Aragua, Venezuela, Moritz in Berlin Hortus (B, holotype).

Venezuela: Federal District, Anzoátegui, Aragua, Falcón, Sucre-Monagas, Trujillo, Zulia.

38. *B. VERRUCULOSA* L. B. Smith, sp. nov. *B. dichotomae* Jacq. affinis sed foliis floribusque dense verruculosus differt.

Herb to 2.5 m high, densely and minutely verruculose except for the oldest and stoutest parts; stem 1 cm thick, succulent. Leaves asymmetric, subreniform, evenly rounded except for the short oblique apex, broadly cordate at base, to 33 cm long and 25 cm wide, laxly obtuse-dentate; petiole to 12 cm long; stipules narrowly lanceolate, 3 cm long, fleshy, entire. Peduncles becoming axillary, 24 cm long. Inflorescences bisexual, cymose, branched 8-10 times, many-flowered, 20 cm wide. Bracts triangular-ovate, minute. Pedicels 4-5 mm long. Staminate tepals 4, white, the outer suborbicular, 3 mm long, the inner obovate, smaller. Stamens few, free; anthers oblong, slightly longer or shorter than the filaments. Pistillate bracteoles like the bracts, much shorter than the ovary. Pistillate tepals 5, minute (immature), the 2 exterior ones about half as large as the interior. Styles 2-parted, somewhat irregular (normal?). Ovary unequally 3-winged. Capsule unknown. Pl. VIII.

VENEZUELA: SUCRE: Cerro de humo; north slopes with virgin cloud forest, along the headwaters of one of the tributaries of Río Santa Isabel, above Sipara, west of Santa Isabel, about 14 km north of the village of Río Grande Arriba, above Boca de Cumana and Punta Siparo, northwest of Irapa, Peninsula of Paria, 1060 m, 1 March 1966, J. A. Steyermark 94804 (US, holotype; VEN, isotype).

39. *B. OTOPHYLLA* L. B. Smith & Schubert, Fieldiana Bot. 28: 417, fig. 89. 1952.

Type: In forest of a ravine tributary to the Rio Manzanares, between La Trinidad and the ridge between Cerro de Diablo and Cerro Turumiquire, Sucre, Venezuela, 1300-1900 m, 12 May 1945, Steyermark 62758 (F, holotype).

40. *B. SCABRIDA* A. DC. in DC. Prodr. 15, pt. 1: 367. 1864.

Type: Venezuela, Moritz (B, holotype).

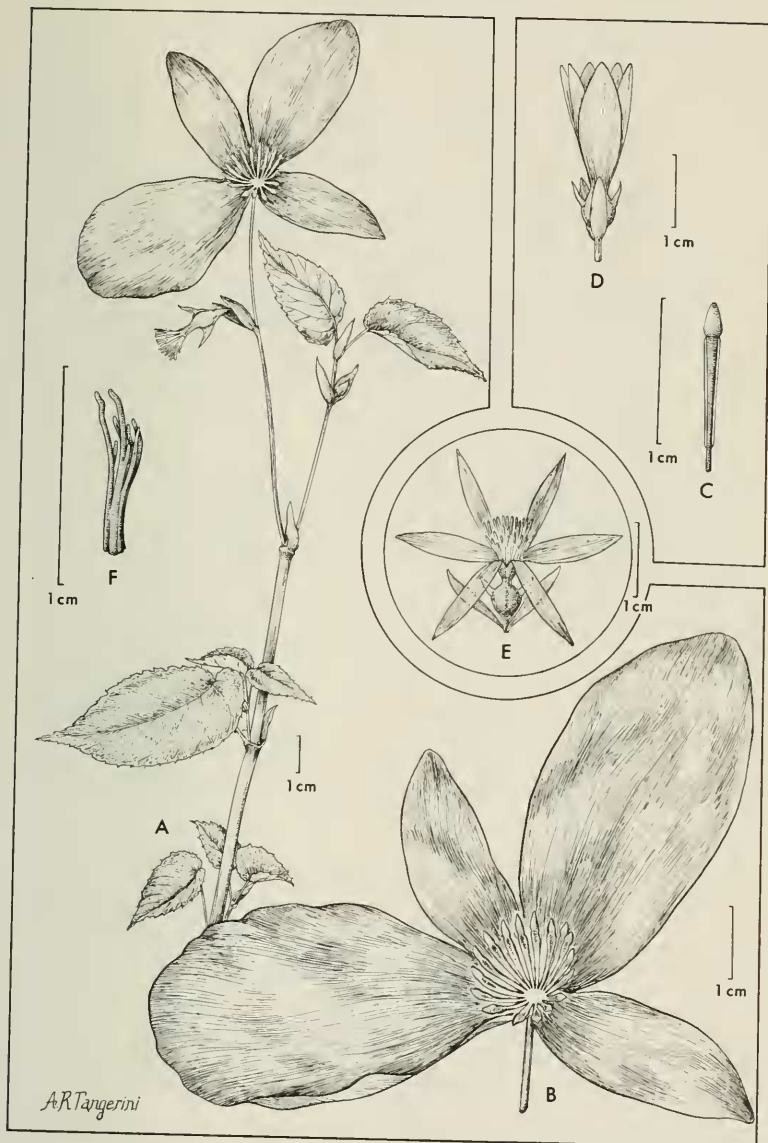
Venezuela: Federal District, Sucre.

41. *B. DICHOTOMA* Jacq. Coll. 3: 250. 1789. *B. sulcata* Scheidw. in Otto & Dietr. Allg. Gartenzeit. 16: 130. 1848. *B. sucrensis* L. B. Smith & Schubert, Fieldiana Bot. 28: 418, fig. 90. 1952. Pl. IX.

Type: Moist forest, near Caracas, Federal District, Venezuela, Jacquin in Vienna Hortus (W, holotype?).

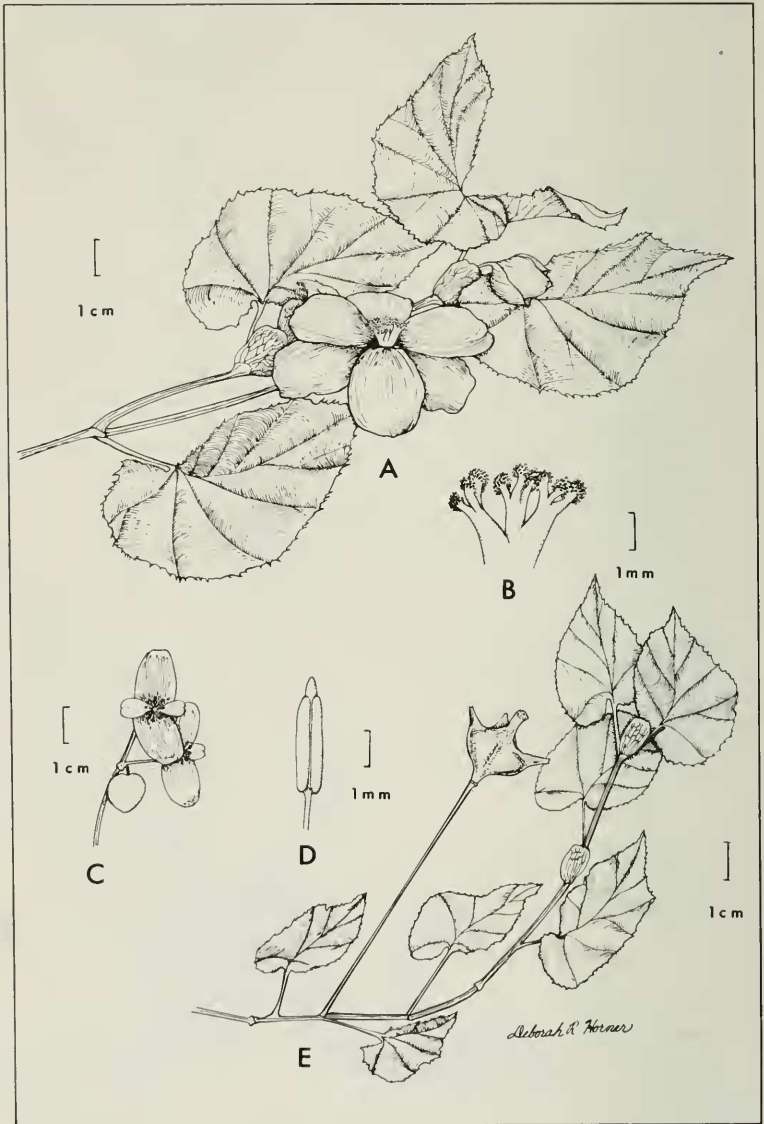
Venezuela: Federal District, Aragua. Barinas, Mérida, Falcón, Lara, Miranda, Sucre, Trujillo, Yaracuy, Zulia. Colombia.

Plate I



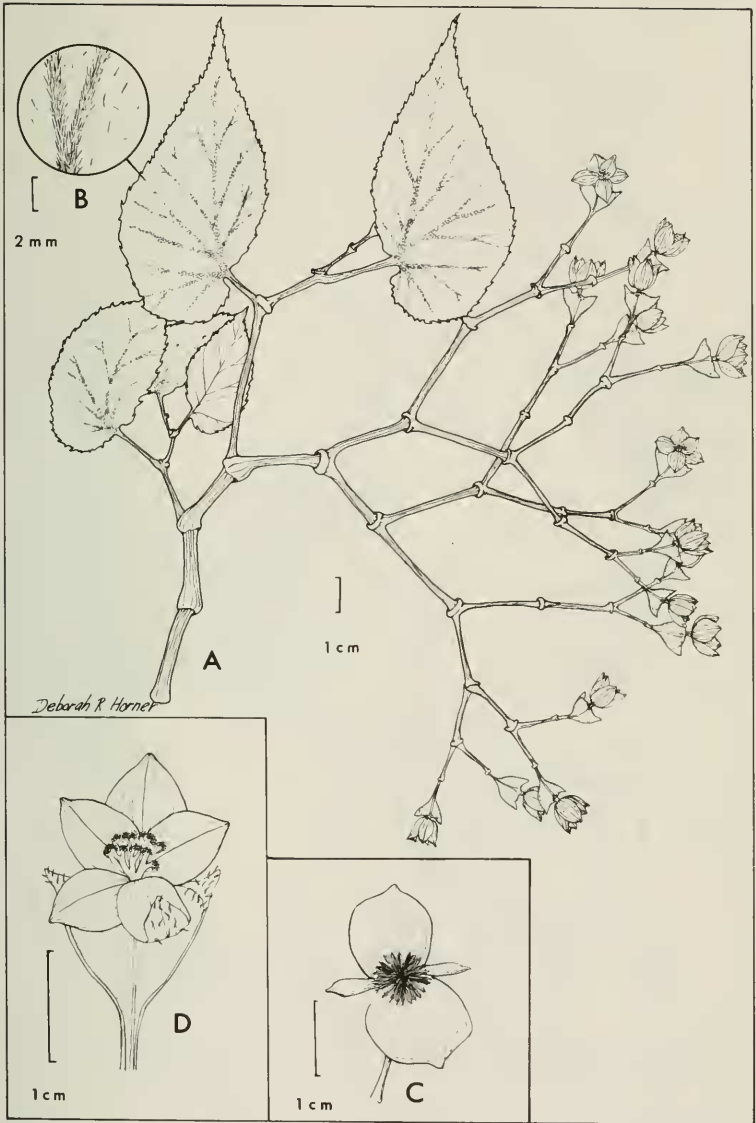
A - *BEGONIA FORMOSISSIMA*, branch; B - staminate flower;
 C - stamen; D, E - pistillate flowers; F - style.

Plate II



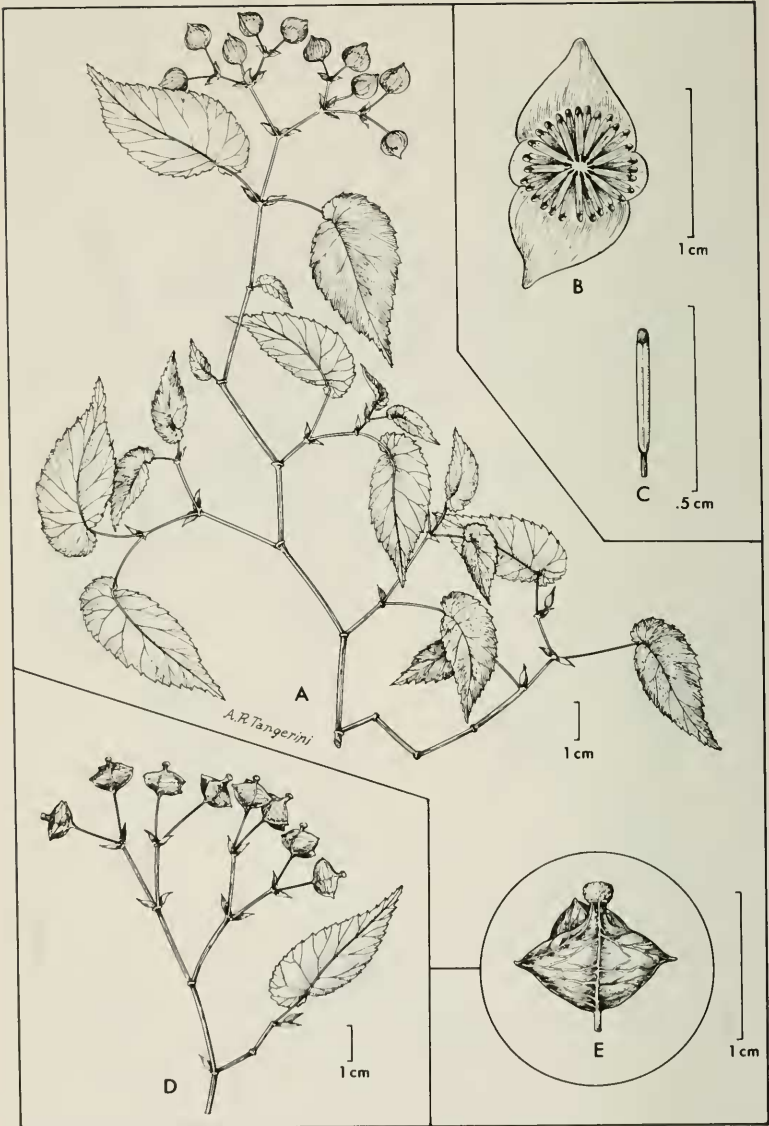
A - BEGONIA MARIAE, branch and pistillate flower; B - styles; C - staminate flowers; D - stamen; E - branch and fruit.

Plate III



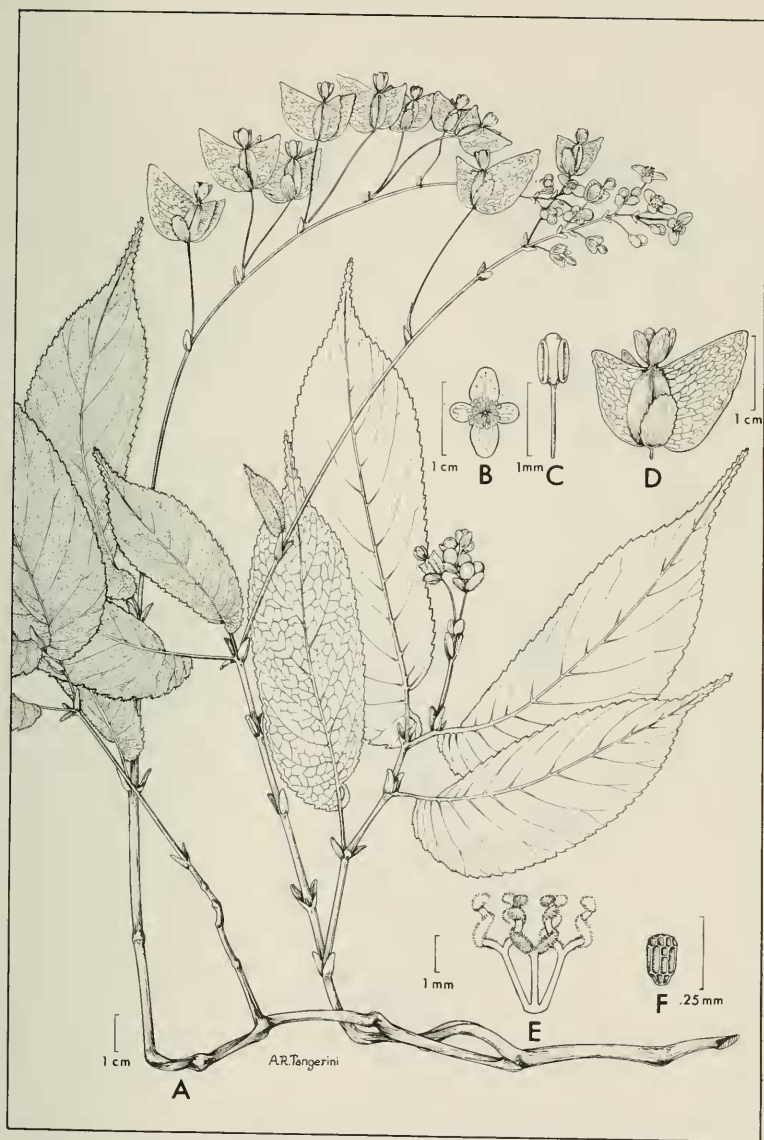
A - BEGONIA LIPOLEPIS, branch; B - leaf (under); C - staminate flower; D - pistillate flower.

Plate IV



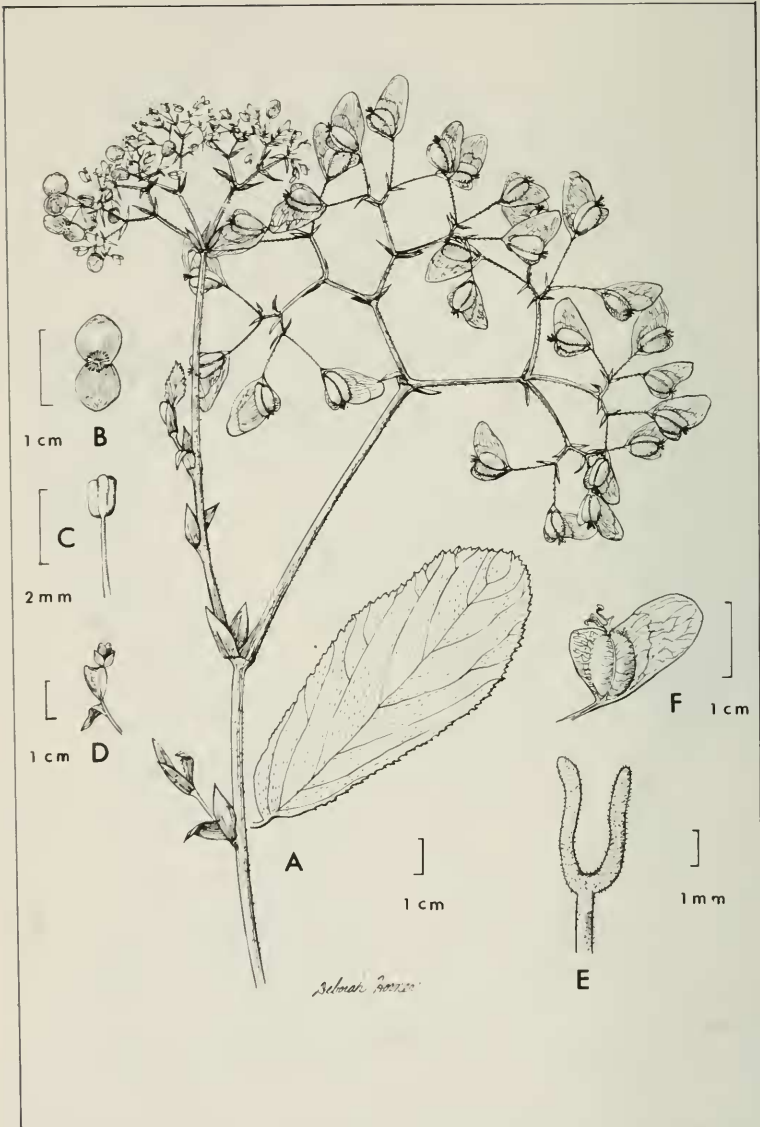
A - BEGONIA GEHRIGERI, branch; B - staminate flower; C - stamen; D - infructescence; E - fruit.

Plate V



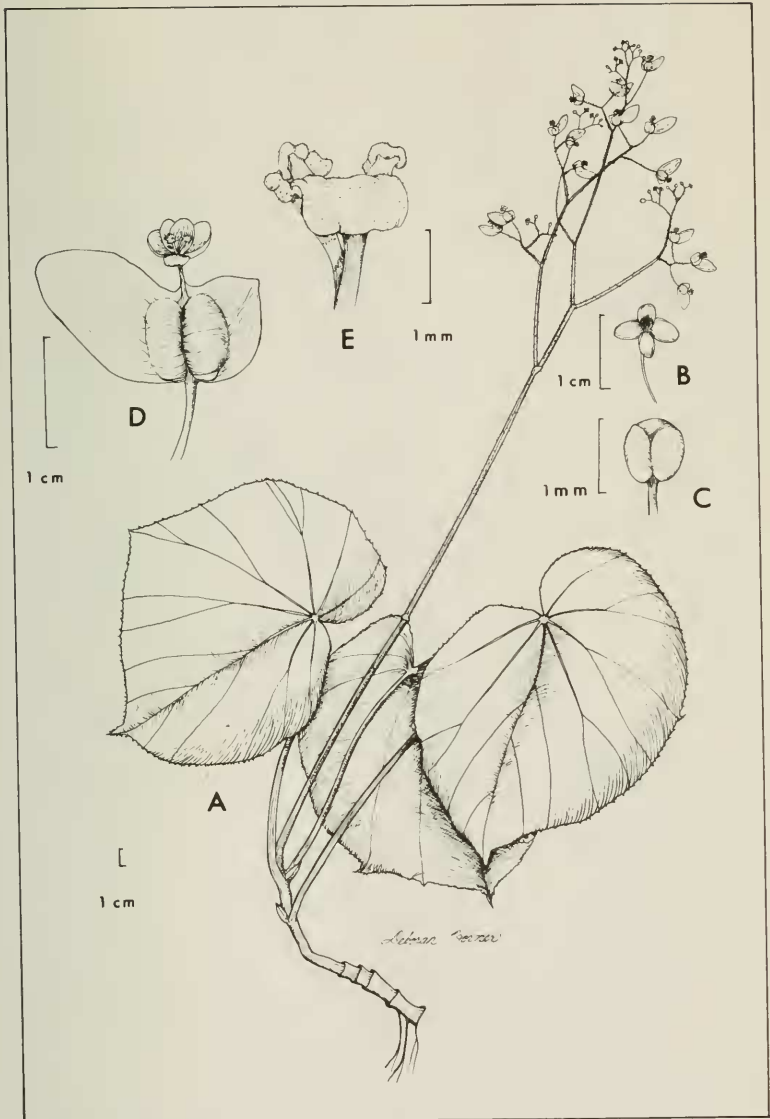
A - *BEGONIA BUDDLEIIFOLIA*, habit; B - staminate flower; C - stamen; D - pistillate flower; E - styles; F - seed.

Plate VI



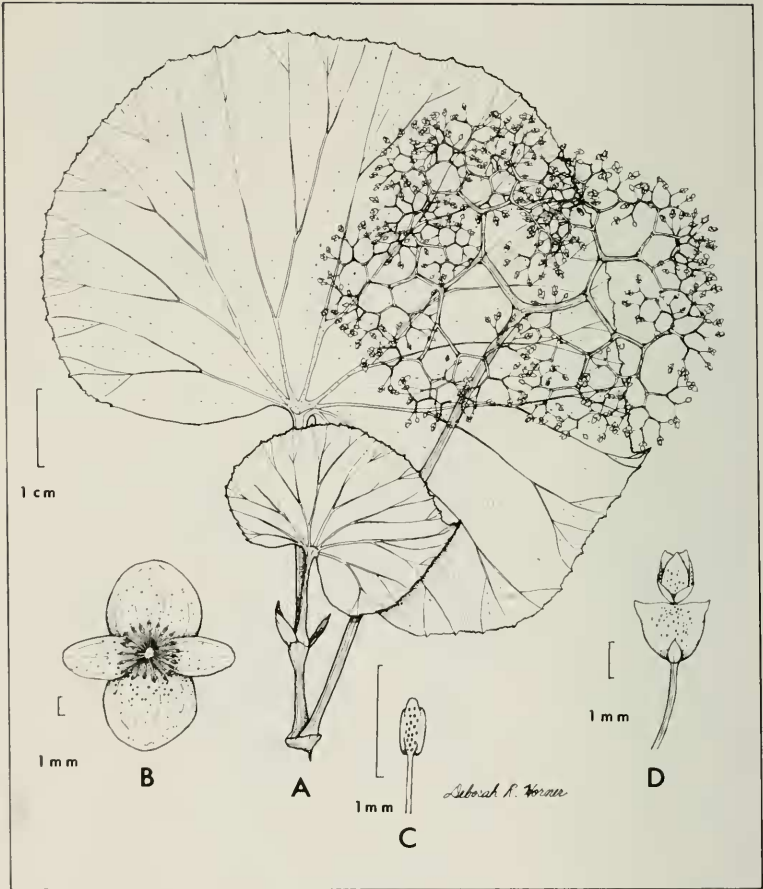
A - BEGONIA UIMIFOLIA, branch; B - staminate flower; C - stamen;
D - pistillate flower; E - style; F - fruit.

Plate VII



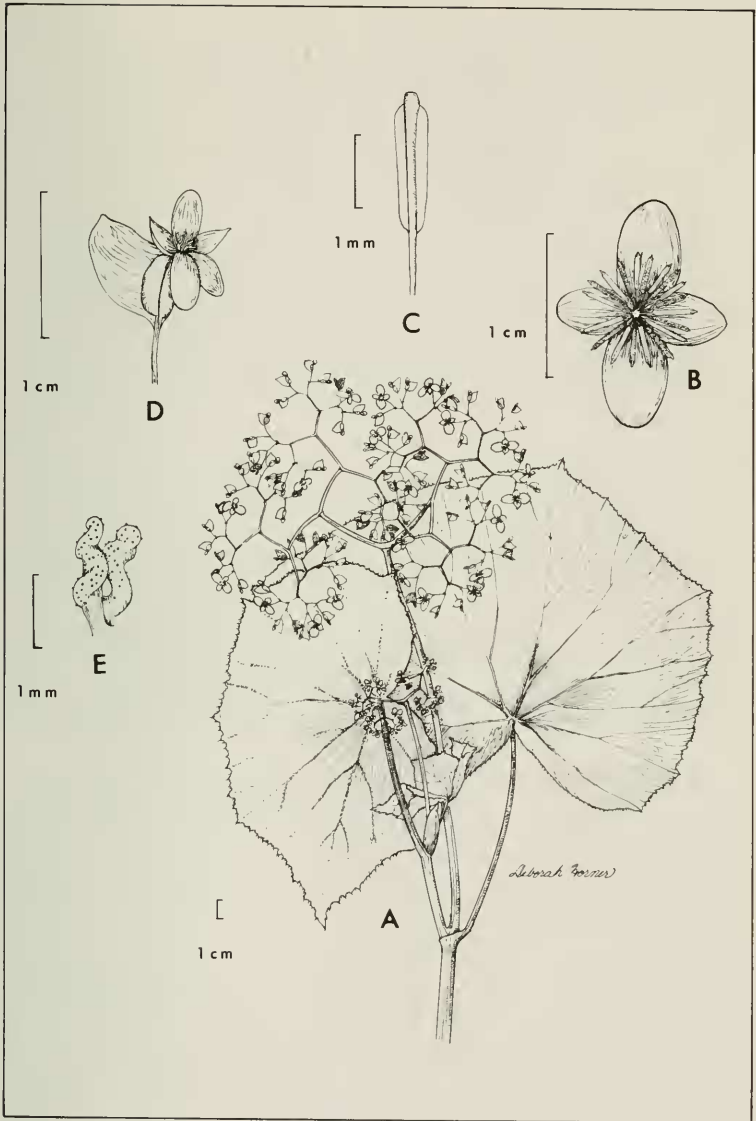
A - *BEGONIA GLANDULIFERA*, habit; B - staminate flower; C - stamen; D - pistillate flower; E - style.

Plate VIII



A - *BEGONIA VERRUCULOSA*, branch; B - staminate flower; C - stamen; D - pistillate flower.

Plate IX



A - BEGONIA DICHOTOMA, branch; B - staminate flower; C - stamen;
D - pistillate flower; E - style.